

Road

JS 300A User Manual

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- Warranty

Thanks for purchasing Road Eye, JS300A, a driver recording system.

- Please be sure to read this manual in details before use.
- We do not provide a warranty for the compatibility of some accessories which are not provided by us. We are also not responsible for any defect caused by such accessories.
- After getting the warranty card, please check the purchasing data (Date, Shop Info) on it.

Road Eye Viewer Program which is provided is designed to be run on Window 2000/XP/Vista/2007

Warning!

Road Eye is a device to assist a safety driver.

We are neither responsible nor compensate for any defect and damage caused by user's misuse and carelessness.

Product Introduction

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- Precautions for Safety
- Cautions in use
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- Package Contents
- Part Descriptions
- LED Signal Descriptions

Product Introduction

Road Eye is a Driver Recording System which applies GPS (Global Positioning System), GPRS/GSM (Option) and 3D acceleration gravity sensor (G-Sensor).

Before using this product, please be sure to read this manual.

- Actual product specifications may differ from what is indicated in this manual as product enhancements are implemented without prior notice.
- Printed at the time of production, this manual may contain technical or editorial mistakes or omission.

Precautions for Safety

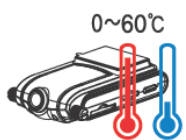
To prevent causing damage to the user's property and to ensure the user's safety, please read carefully the following precautions.



While driving, never perform any operation and always park the car in a safe place first before operating the device.



Do not disassemble, repair, or reconstruct without an authorized technician.



Use the device under proper temperature.

Leaving the device for a long time under hot or cold temperature can be a cause of malfunction.

(Proper Temperature: 0 ~ 60 °C)



Avoid exposing this product to shock or impact and keep it away from magnetic fields or vibration.

Keep the product away from wet places.



In using vehicle power, do not use for a long time with the engine off. It may be a cause of discharge.



This product is designed to be used with Cigar Jack Power.

In case of using direct electric power (B+ Power) of car, please discuss with a specialist, and any problem occurred in this case will belong to users responsibility.

Cautions in Use

Cautions

It is recommended that you carefully read this manual for safe use



Performing while driving can be a cause of accident. Always park the car in a safe place first before operating the device.



Check the installation status before driving. Driving under the physical conditions such as uneven, a sharp curve in the road with unstable installation might cause damage.



Using vehicle power, please first check if there is no problem with the power supply before connecting the device to the cigar jack adaptor. Any sudden power spike may damage the device.



This product is designed to automatically record a video file, triggered by a user-defined level impact to your car. The manufacturer does not guarantee about every impacts on your car to trigger this function.



Prevent any foreign substance to come in contact with the memory card or the internal parts of this device, as it might cause malfunctions.

Keep the lens clean and avoid any obstacles in the camera angle to get the clear view.



Do not put other substances around the device. It can be mirrored through the windows and recorded with accident images.



In the accident getting less impact than the minimum user defined, the image may not be recorded.
(Refer to the manual)



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Unauthorized reproduction, processing and distributing can be punished by intellectual property rights management law as well as claimed compensation for damages.

Specification

Front Camera	120° 1/3" CMOS 300K Pixel Digital Sensor / WDR Support
External Camera	Option (90° 1/4" CCD 270K Pixel NTSC)
Recording Resolution	H.264 (VGA 640*480 up to 30fps) ★ 2ch use : VGA 640*480 up to 15fps
GPS	Internal GPS
Shock Sensor	Internal 3D G-Sensor
Storage	SD Memory Card (1GB ~ 32GB)
Audio	Internal MIC
Power	DC 12V ~ 24V
File Saving	Upon Impact (Automatic/Manual)
Normal Recording (Full Time)	Support
Real Time Clock	Support
TV-Out	Support
Size	119.5 x 55.0(75.5) x 31.7 (mm)
Weight (g)	137(W/O GPRS), 157(With GPRS)
GPRS	Support

Package Contents

Please check the contents after opening the gift box. (Refer to the below images)



JS 300A



Cigar Jack Power Cable



SD Memory Card



User Manual



Viewer Program CD



A/V Cable (For TV Connection)



Cable Tie / Holder



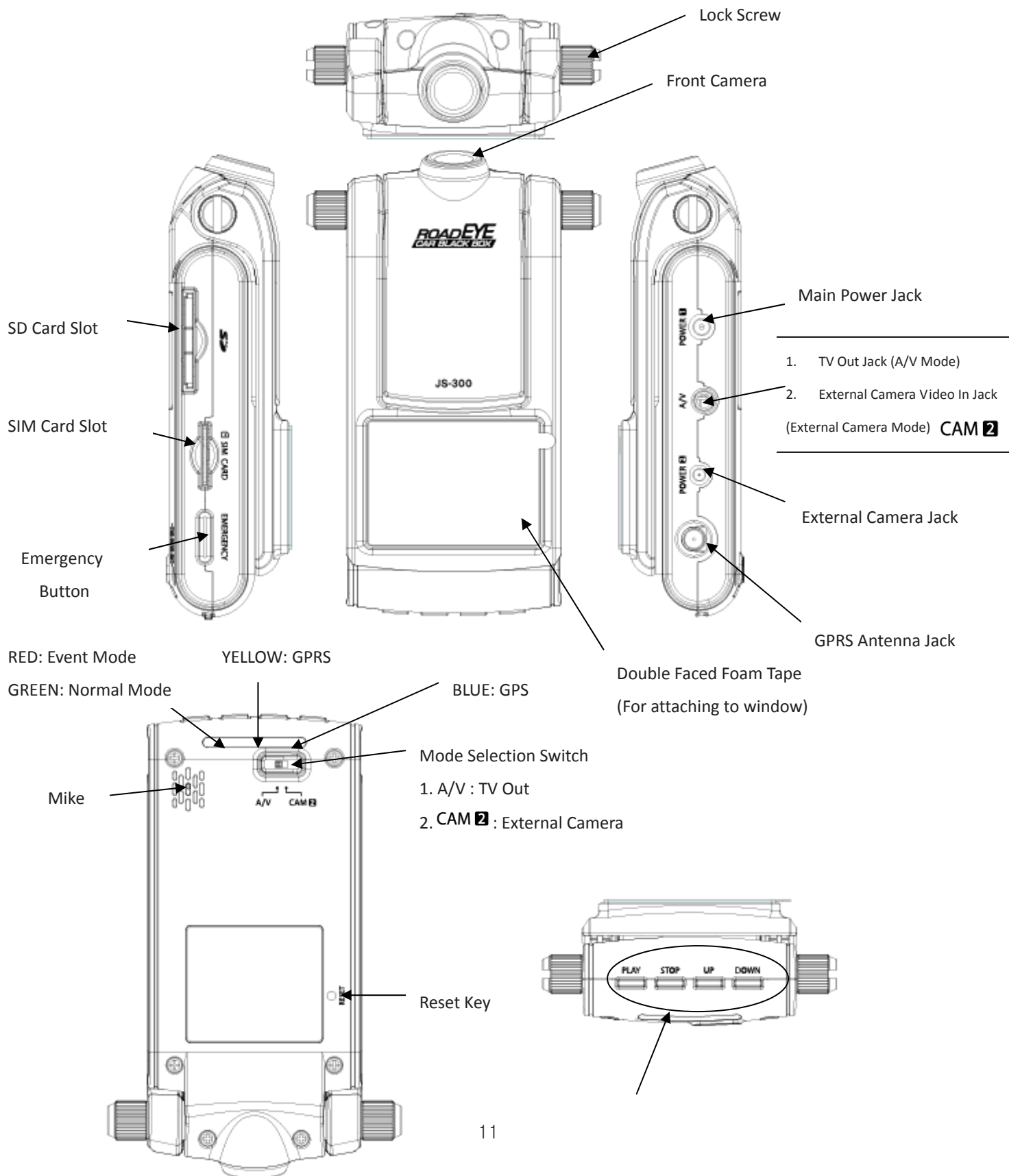
GPRS Ant.



External Camera & Cable (Option)

(Actual product specifications may differ from the images in this manual as product enhancements are implemented without prior notice.)

PART DESCRIPTION



LED /Signal Descriptions

Classification	RED (Event)			BLUE (GPS)	Audio alert	LED Status
Power connecting (With SD Card)	○		○	○	Once long	Blinking at 1 sec interval one after another.
Power Connecting (Without SD Card)	○	○			Fifth short	Blinking at 0.5 sec interval by turns
Stand by Event Recording (Voice Recording)	○					Blinking at 1 Sec interval
Stand By Event Recording (Voice Recording Cancel)	○					Blinking at 0.5 Sec interval
When Event occurs (Or when press Emergency Key)	○					Blinking at 0.1 Sec interval for 3 seconds
On Normal(Full Time) Recording		○				Blinking at 1 Sec interval
On Normal(Full Time) Recording Cancel		○				Blinking at 0.5 Sec interval
When GPS signal is available				○		Blinking at 1 Sec interval
When GPS signal is not available				○		Light on continuously
Firmware Upgrade (When Power is connected)	○		○	○		Light on at 1 sec interval rapidly by turns
Firmware Upgrade (On progress)		○				Blinking at 0.1sec rapidly
Firmware Upgrade (Completed)		○	○	○	Third long	Light on at the same time
File Viewer (When connected)		○				Light off after lighting
When searches GSM Network			○			Blinking at 1 Sec interval
When GPRS Network is connected			○			Light on continuously
When transmits GPRS Data			○			Blinking at 0.1 Sec interval
System Error	○	○				Light on continuously (with Orange color)

Installation Guide and Function Description

Precaution

Installation

Mount

- Checkups after Installation

- External Camera Installation (Option)

Function Description

- Start

- Event Record Mode

- Normal Record Mode (Full Time Recording)

- Reset

- GPS Function

- Acceleration Sensor Calibration

- G-Sensor Data analysis (Example)

- GPRS Function (Only for JS300A)

- GPRS Configuration (Only for JS300A)

- Voice Recording On/Off function

Installation Guide & Function Description

PRECAUTIONS

- Turn off the engine before installation.

Connect the main power of the device at last after installation. (**POWER 1** , here in after called “Power”)

- Insert SD Memory card before connecting the device.
- Install the device in safe and bright place.
- Connect the main power through cigar jack provided (DC 12V ~ 24V).

Installation



1. Attach the device

Check and select the proper place where does not disturb driving on the front window and attach the device with a double faced tape.

2. Fix the device

Get the camera lens focused on the front and fix with Lock Screws of the device.

- ★ GPS reception part should be exposed to the window for the better reception.

3. Connect the power

Connect the cigar jack to the power port and check if the power is working properly.

- ★ SD Card should be inserted before connecting the power. Otherwise, Red and Green LED would be blinking at 0.5sec interval by turns.



4. Working Test

Play back the saved data after testing drive. Then, check if the data is recorded correctly and revise the camera place on it.

★ JS 300A is working based on High- Sensitivity Camera Sensor.

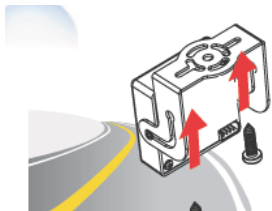
The recorded video image can be shown dark if the device is installed toward the sky.

Checkups after installation



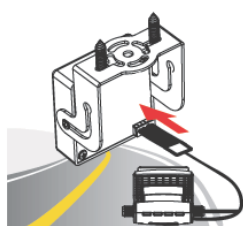
1. If the camera angle is not proper, adjust with rotating the lock screw and fix it after. (Refer to the step 2 ~ 5days).

External Camera Installation (Option)



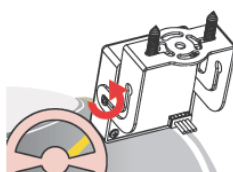
1 Select a place to install

Select a place to install the external camera and fix with the screw provided.
(The connecting part should be toward to the ground.)



2 Connect the camera to JS300A

Connect the camera to JS 300A with the cable provided. (**POWER** , A/V)



3 Fix the camera angle

After adjusting camera angle, fix the camera with the lock screws on the bracket.

★ Disconnect the power during installation of the camera.

★ External Camera is only for internal use.

Start

1. Connect power after SD card is inserted, black box is activation after red LED, yellow LED, blue LED is blinking at 1 second
* SD Card should be inserted before connecting the power. Otherwise, Red and Green LED would be blinking at 0.5sec interval by turns, if it is happened, shut off the power supply after all LED is off and then insert SD card to restart Black Box
2. Recording is run based on Event and Normal record mode (Full Time Mode), and the present recording mode is saved and memorized into Configuration Variable Setting File in SD Card.
(The Factory default record mode is Event Mode and it would be same after formatting SD Card.)
3. To change the recording mode, connect power under the status of pressing Emergency key simultaneously.
The mode will be changed either Event Record mode to Normal Record Mode or Normal Record Mode to Event Record Mode.
The changed recording Mode would be saved into SD Card and maintained until the mode is changed by user.
When press Emergency Key, just press it until Red LED turns on.

Event Record Mode

1. During Event Record Mode, Red LED is blinking at a second interval..
2. When the impact value recognized by G-Sensor (Acceleration sensor) is bigger than User-defined value or when user presses Emergency key manually, the image and voice before 10 seconds and after 20 seconds of the event will be saved as a file.
When an event occurs, Red LED will be blinking rapidly at 0.1 second interval for 3 second and inform of it.
3. Another event occurs while the previous event is saved, the event would be ignored.
(If emergency record is required, just press Emergency button and recording will be started. After recording, the mode will be back to Event Record Mode.)
Event can be recorded up to 100 times as a file, and from the file recorded first it would be overwritten sequentially when the number of file is exceeding the maximum.
4. When the power is disconnected on Event Record Mode, JS 300A would be shutdown after saving the event, maximum 20

seconds, if it is on recording an event. Otherwise it will be shutdown instantly.

5. If presses Stop Key, JS300A will complete recording event and all functions will be stopped. (All LED lights will be off)
To start JS 300A again, disconnect power and connect again.

Normal Record Mode (Full Time Recording)

1. Green LED is blinking at a second interval on Normal Record Mode.. Blinking at 0.5 second on mute mode.
2. Normal Record Mode records video and audio at 1 minute interval successively.
3. If SD Card storage is full during Normal Mode, JS 300A will overwrite from the file saved first.
4. During Normal Mode, G-Sensor (Acceleration Sensor) and Emergency Key function will be ignored.
5. If power is disconnected during Normal Mode, JS300A will be shutdown after 10 second additional recording.
If presses STOP Key on Normal Record Mode, JS300A will complete recording and all functions will be stopped. (All LED light will be off). To start JS 300A again, disconnect power and connect again.
Black box Function and recording is stopped , Click stop key on normal record mode

Voice Record On/Off Function

It is the function that voice record can be On/Off on recording

State of LED is blinking at 1second on Normal or Event mode and voice record is on if you press Function Up Key

State of LED is blinking at 0.5 second on Normal or Event mode and voice record is off if you press function Down key

Also voice record On/Off can be changed at Setting of PC Viewer

Reset

1. There can be unexpected system errors. If the error occurs, Green and Red LED light columns are on at the same time and lighting on Orange color continuously.
2. When system error occurs, disconnect power. Then press Reset key with the pointed stuff such as a pin, a ballpoint pen...etc., and connect power again. JS 300A will be re-booting and run.

GPS Functions

1. If GPS data is not received properly, Blue LED will blink at a second interval. When GPS Data reception is working properly, Blue LED will be lighting continuously..
2. If presses Play Key on either Normal Record Mode or Event Record Mode for more than 3 seconds, GPS Cold Start will be

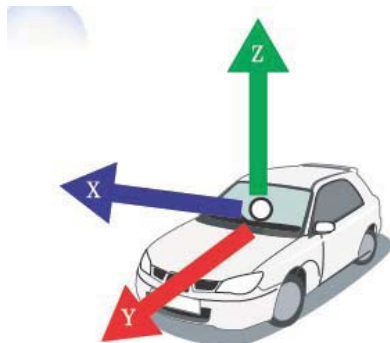
operated with Blue LED blinking rapidly at 0.1 second for a second.

3. If GPS Data reception is running correct, set the time of internal RTC (Real Time Clock) on GPS time. Once set on GPS time, it will maintain the exact time without any additional time set. The internal RTC time is reflected with connecting the power again after power disconnection

4. . If there is any substance which can give the bad effect to GPS reception, please leave it in the distance from JS 300A.

Acceleration Calibration Function

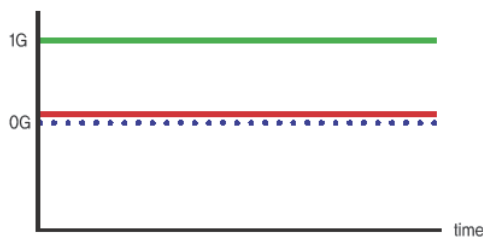
- G-Sensor (Acceleration Sensor) shows the Acceleration Value of X, Y and Z axis on the unit of acceleration of gravity, $1g = 9.8m/s^2$. And the directions are as below image.



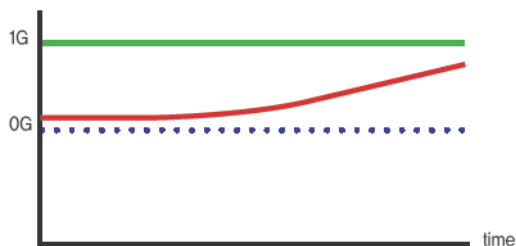
X Axis: Right & Left	(Right +)
Y Axis: Front & Rear	(Front +)
Z Axis: Top & Bottom	(Top +)

G- Sensor Data Analysis (Example)

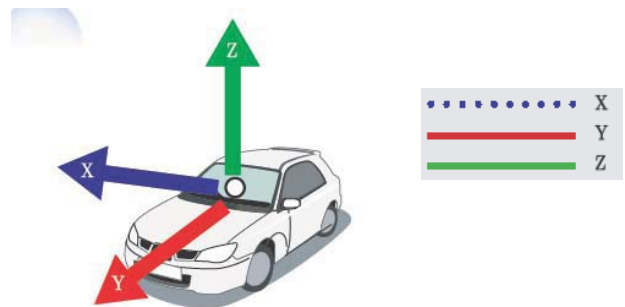
Viewer Program shows G-Sensor Data Graph as the below images upon Log Data which is saved with video files and driving status can be analyzed through the graph.



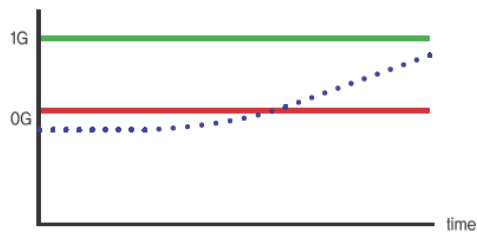
Stop



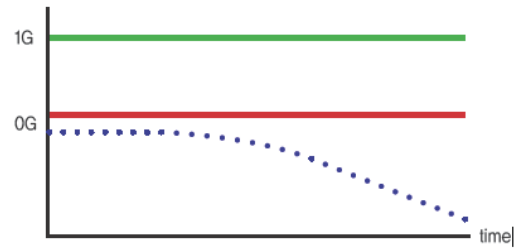
Acceleration



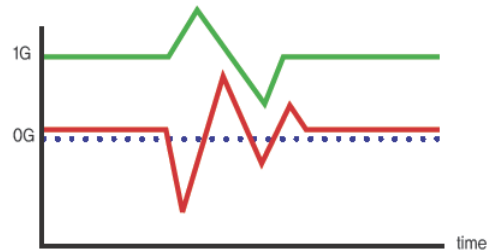
Deceleration



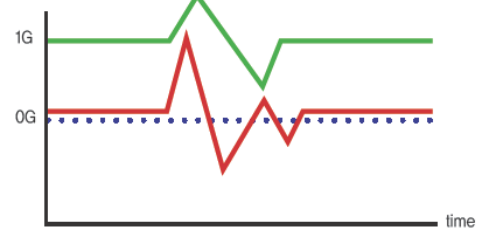
Right Turn



Left Turn



Head-On Collision



Back-Up Collision

GPRS Functions

GPRS Specification

- Quad-band EGSM 850 / 900 / 1800 / 1900 MHz
- Output power
 - Class 4 (2W) @850 / 900 MHz
 - Class 1 (1W) @ 1800 / 1900 MHz
- Sensitivity
 - 107 dBm (typ.) @850 / 900 MHz
 - 106 dBm (typ.) @ 1800 / 1900 MHz
- GPRS class 10
 - 3 time slots in RX (43200 bps max) and 2 time slot in TX (28800 bps max)
 - 4 time slots in RX (57600 bps max) and 1 time slot in TX (14400 bps max)

GPRS Specification

- Yellow LED blinks under GPRS disconnection and it is lighting continuously when GPRS is connected and available to data.
- When GPRS Data is transmitted or received, Yellow LED blinks at 0.1 second interval..
- JS-300A provides to transmit the below data such as G-Sensor value, GPS data through SMS to the designated number

Date : 2009-02-01 04:19:30
 G-Sensor : X=-0.02, Y=+0.93, Z=-0.03
 Latitude : 37.237981 N
 Longitude : 126.508762 E
 Speed : 51 km/h

JS-300A provides Data Transmission function through FTP and Snap shot files on JPEG format can be transmitted to the designated FTP Server.

Transmitting recorded screen regularly function

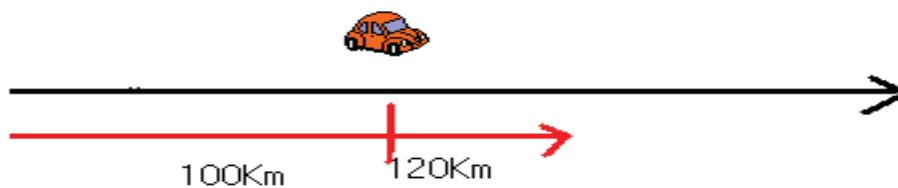
There are two ways of transmitting, sending control system after captured screen on recording when event is occurred or send it periodically

Positional information of vehicle function

It is the function that positional information of vehicle is periodically transmitted to the control system Informing limited speed function

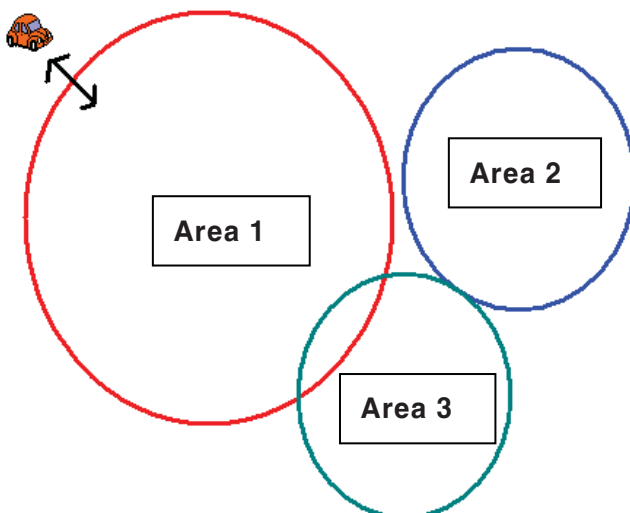
It is the function that informing limited speed to the control system after setting limited speed of vehicle

EX) As an example below, if limited speed is set and the speed is over 120km, all the dates are transmitted to the control system



Specific area access informing function

It is the function that reporting the state of access to the system after Select specific area (14 areas are possible)



The function above can be set on control system

Playback

- **Playback through TV**

- Cable connection for TV Out
- File Viewer Mode
- Function of each key
- Playback the file recorded on Normal Mode
- Playback the file recorded on Event Mode

- **Playback through PC**

- Viewer Program Installation
- Codec Installation
- How to use Viewer Program
- Playback Movie file
- Configuration Set

- **Playback through TV**

- Cable connection for TV Out
- Please connect A/V Cable to the jack on JS300A
- Connect Yellow color A/V Output cable to Composite Video Output Terminal on TV and connect Red (Right) and White (Left) color A/V cables each to Composite Audio Output Terminal on TV.
- Select A/V, CAM 2 Mode Selection Switch on A/V.
- Connect a Power Adapter to Power 1.

* Adapter is an optional item which should be purchased separately.

- Usage of TV Out.

TV Out is used for the below two usages.

1. Real Time monitoring of forward shot images.
2. Play back the video file saved into SD Card with connecting TV directly. (Please refer to File Viewer Mode)

If connect the power without pressing any key after connecting A/V Cable to TV, JS300A will start on Forward Shooting Video Output Mode. And if connect the power with pressing Play key, it will start on File Viewer Mode.

★ TV-Out Signal Format (NTSC, PAL, PAL-M) setting should be done through the configuration set on the viewer program.

File Viewer Mode

Connect the power under the status of pressing PLAY Key and File Viewer Mode which can replay the saved files through TV-Out is started. (Green LED is blinking on operating.)

1. Press PLAY Key until Red LED is on after power connection.
2. Mode Selection Slide Switch must be on A/V.

- Function of each key

In the case there are files recorded by 1channel and 2channel, which are mixed up together on EVENT FILE VIEWER, the file recorded by 1channel is played first and the file recorded by 2channel is played after it automatically. If presses STOP Key during playing 1channel file, the file recorded by 2channel would be started.

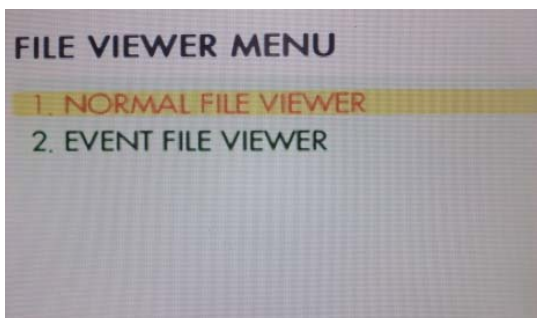
Item	File List Menu	On Playing
PLAY	Menu Select / Playback the selected file	Replay / Pause
STOP	Move to top menu	Stop Playing / Move to the file list
UP	Move up	Replay 10 second forward
DOWN	Move down	Replay 10 second backward.

* 1 Channel: Front Camera

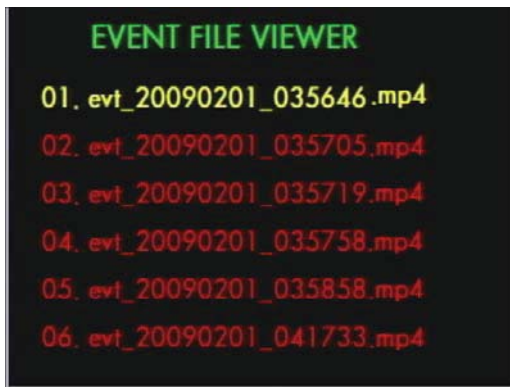
2 Channel: External Camera

Playback the file recorded on Normal(Full Time) Mode

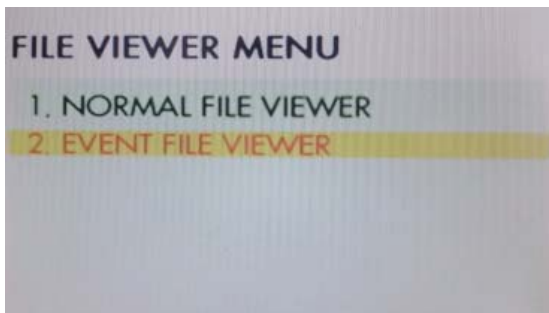
1. Select NORMAL FILE VIEWER



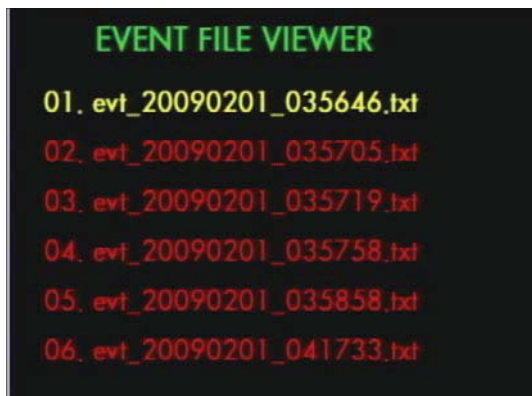
2. Select Normal File Folder



- PLAY EVENT RECORDING FILE
 1. Select EVENT FILE VIEWER



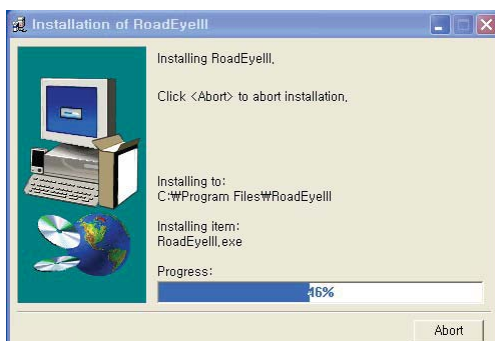
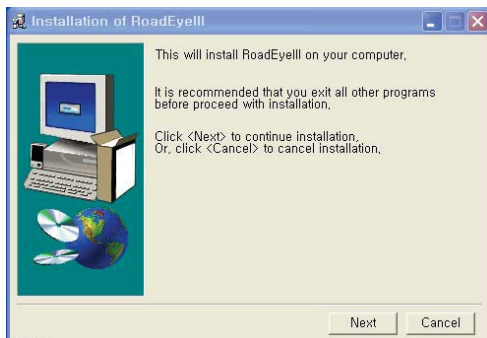
2. Select EVENT File

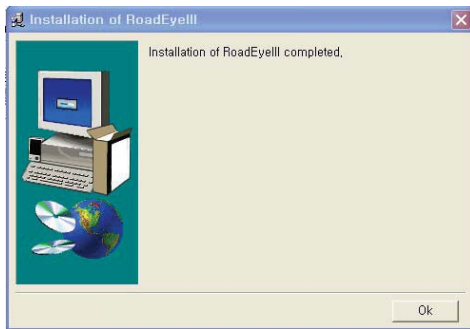


Playback through PC

- Road Eye JS 300A Viewer Program installation

1. Install RoadEyelllSetup.exe
2. it is processed in order the screen below





3. Road Eyelll I-Con is installed on your screen after Installation is completed

- How to use Viewer Program

Double click Viewer Program Icon




Viewer Program Main Screen



1. Playback Display
2. G-Sensor Graph.
3. Menu Button
4. Front/rear video playback select
5. Playback folder open/ Configuration Save/ Configuration
6. © Google Map: Users can track the driving route with GPS location data saved with the video file through this map.
7. Playback list

Playback Movie File

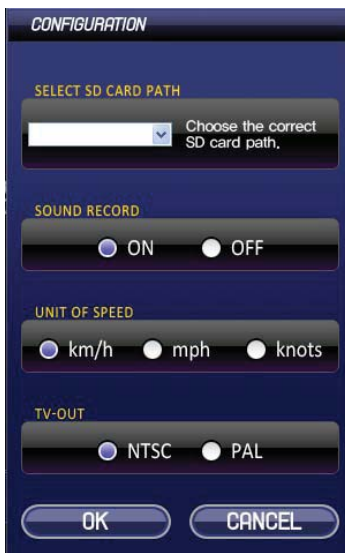
1. Click the folder  open at the List of main screen and choose the route folder or route folder of SD card date which is already saved on the computer

2. Start playing  when the user Double click the file on the file list

3. The file can be automatically played in a row

Configuration

The screen is appeared below when click the configuration button



1. SELECT SD CARD PATH : Name of drive of SD card to playback.
2. SOUND RECORD : Voice record on recording
3. UNIT OF SPEED : select the speed unit on video is playing
4. TV-OUT : TV OUT FORMAT select

Update

- Firmware Update
- SD Card Date

Firmware Update

JS 300A is firmware upgradeable through SD Card.

1. Copy the target file to update, "app.bin" into a root folder of SD Card..
 2. SD Card into JS300A and connect the power..
 3. When Red, Yellow and Blue LED is sequentially on at a second interval and JS300A is started, Update is progressed with Green LED blinking rapidly at 0.1 second interval.
 - 4 .Green LED/Blue LED/ Yellow LED is turning on at the same time and audio alert is ringing when the update is complete.
 - 5.Firmware is activated, if power supply is connected again after removed power supply again
- ★ More information, please refer to www.dvr-korea.co.kr

SD Card Date

1. Event Recording File

File is stored at **evt_yyyymmdd_hhmmss_x.mp4** on event record mode when event is occurred

evt_yyyymmdd_hhmmss_1.mp4 : Front Camera Video

evt_yyyymmdd_hhmmss_2.mp4 : Rear Camera Video

2. Normal Recoding File

File is stored at jvr_yyyymmdd_hhmmss_x.mp4 on normal record mode with recording video and voice

jvr_yyyymmdd_hhmmss_1.mp4 : Front Camera Video

jvr_yyyymmdd_hhmmss_2.mp4 : Rear Camera Video

3. Setup Folder

Variable file is stored.